

THE INSECT VISITANTS AND INHABITANTS OF MELILOTUS ALBA¹

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A study was made throughout the summer of 1928 to determine at least the more common insect visitors and inhabitants of white sweet-clover (*Melilotus alba*) in and about Ithaca, New York. This study began just before the blossoming of the plants and continued until after the seeds had ripened. Various white sweet-clover patches were visited and these visits were arranged so that collections were made at all hours from dawn till dark. Several hundred roots were examined and about an equal number of stalks were cut open but in no case were insects found either on or in the roots, or within the stalks. Neither were insects found feeding on the seeds. During the summer of 1928 at least, very few leaf miners were found on these plants. As will be seen below the very great majority of insects collected were flower visitors.

Orthoptera

Melanoplus femur rubrum was found in great numbers, during the first week of September, climbing on the stalks and petioles of *Melilotus alba*.

Odonata

Enallagma civile Hagen was constantly found in numbers about *M. alba* feeding upon its insect visitors. This species was determined by Dr. James G. Needham.

Hemiptera

The following Hemiptera were collected throughout the summer, but never more than one or two specimens, crawling over the leaves: *Nabis subcoleoptratus* Kirby, *Sinea diadema* Fabr., *Podisus maculiventris* Say, *Miris dolabrata* L., *Lygus pratensis*

¹ A contribution from the Entomological Laboratory of Cornell University.

L., *Adelphocoris rapidus* Say, and *Paracalocoris scrupens* Say. These specimens were determined by W. L. McAtee of the United States National Museum.

Homoptera

Philænus spumarius var. *ustulatus* Fall and *P. s. pallidus* Zett were frequently found feeding upon the leaves of *Melilotus alba* throughout the entire summer. One specimen of *P. spumarius marginellus* Fabr. was collected feeding on a leaf. These homopterans were determined by Mr. McAtee.

Illinoia pisi Kalt., determined by Dr. P. W. Mason of the U. S. National Museum, was very abundant at certain times during the summer; notably from the middle of June to the first of July and from the middle of July to the latter part of August. Between these two periods hardly a specimen was to be found. These aphids were observed to feed almost exclusively on the under surfaces of the leaves.

Coleoptera

Adalia bipunctata L., and *Coccinella novemnotata* Hbst., were very abundant on the plants at the same times that *Illinoia pisi* was. They were feeding upon the aphids.

Chauliognathus pennsylvanicus Deg., was extremely abundant during the first half of August. Great numbers were observed in copula. These insects were found chiefly about the flowers.

Scattered specimens of *Cycloneda munda* Say, *Dibolia borealis* Chevr., *Trirhabda canadensis* Kby., and *Hemicrepidius decoloratus* Say were found on the leaves and flowers of *M. alba* throughout the summer.

The above coleoptera were determined by Dr. E. A. Chapin of the National Museum.

Lepidoptera

But one lepidopterous leaf-miner, *Micrurapteryx kollariella* was found upon white sweet-clover. This is a European species and has not been previously collected in the United States.

During the entire summer *Pieris rapæ* L. was very common about the flowers.

During the middle of July egg masses of *Estigmene acraea* Dru., were common on the stalks of the plants. These egg masses consisted of from thirty to forty eggs, which were closely glued together in a flat, single-layered mass. Eggs collected on July 16 hatched July 18; the larvæ pupated August 18 and the adults emerged, mated, and oviposited on September 4. The larvæ caused considerable defoliation.

Specimens of *Crambus hortuellus* Grt., *C. prafectellus* Zuick., and *C. luteotellus* Clem., were fairly common throughout the entire summer.

Occasional specimens of the following species were collected: *Everes comyntas* Gdt., *Phyciodes tharos* Gn., *Laspeyresia interstinctana* Clem., and *Platyptilia pallidactyla* Haw.

The Lepidoptera listed above were determined by Dr. W. T. M. Forbes of Cornell University.

Diptera

The only dipterous leaf-miner on *Melilotus alba* was *Agromyza pusilla* Meig. The serpentine mines caused by this insect were not uncommon.

The only other dipteran that was collected in any numbers was *Pollenia rudis* Fab., (determined by Dr. J. M. Aldrich). This species was found throughout the summer.

Occasional specimens of *Mesogramma geminata* Say and *Sphærophoria cylindrica* Say were collected. Both of these species were determined by Dr. C. T. Green of the National Museum.

Rare collections of the following flies were made: determined by Dr. Green—*Tabanus costalis* Wied., *Syrirta pipiens* L., *Eristalis transversus* Wied., and *Psilopus scobinator* Loew.; determined by Dr. Aldrich—*Wohlfahrtia vigil* Walk., *Archytas analis* Fab., *Trypeta florescentiae* L., *Oncomyia loraria* Lw., *Phleomyia indecora* Lw., *Spallanzania hesperidarum* Will., *Lucilia sericata* Mg., and *L. sylvarum* Mg.; determined by Mr. F. M. Hull of the Division of Entomology, Texas State Agricultural Experiment Station—*Platychirus peltatus* Meig., and *P. hyperboreus* Staeger.

There is no record of a previous collection of *Oncomyia loraria* Lw., from New York State.

Hymenoptera

Apis mellifera L., was found in great numbers, even on days when there was a strong wind, throughout the entire blossoming season.

The following specimens, determined by Miss G. Sandhouse of the U. S. National Museum, were collected on *M. alba*: *Halictus provancheri* D. T., *Ancistrocerus capra* Sauss., *A. unifasciatus* Sass., *A. parietum* L., *A. tigris* Sauss., *A. catskillensis* Sauss., *Halictus leuroides* Lep., *H. craterus* Lovell, *H. fuscipennis* Sm., *H. pectoralis* Sm., *H. sparsus* Robt., *H. ligatus* Say, *H. lineatulus* Cwfd., *Sphecodes confertus* Say (?), *Hylæus* sp. near *stevensi* Cwfd., *Andrena* sp., *Philanthus bilunatus* Cr., *P. politus* Say, *Cerceris nigrescens* Sm., *Cerceris* sp., *Oxybelus quadrinotatus* Say, and *Psen* sp.

Of these species *Halictus provancheri* D. T., *Ancistrocerus catskillensis* Sauss., *Halictus sparsus* Robt., and *Hylæus* sp. near *stevensi* Cwfd., were common throughout the season. The other species were relatively rare.

Halictus craterus Lovell, *H. pectoralis* Sm., *H. sparsus* Robt., *H. lineatulus* Cwfd., and *Sphecodes confertus* Say (?) have not been recorded heretofore from New York State.

Formica fusca var., determined by Dr. W. M. Mann of the National Museum, was found throughout the whole summer crawling over the stalks, stems, and leaves.

One specimen each of *Plectocryptus* n. sp., and *Casinaria genuina* Nort., were collected on white sweet-clover. *Casinaria genuina* Nort., has not been previously recorded from New York State. Dr. R. A. Cushman of the National Museum determined these species.

One undetermined sawfly was collected.

Polistes pallipes Lep., and *Bicyrtes ventralis* Say were relatively common on *M. alba* throughout the summer. These species were determined by Dr. P. P. Babiý of Cornell University.